

July 24, 2001

Mr. Stanley Clark
Holiday Shell
703 West Park Street
Cayuga, Indiana 47928

Re: Registered Construction and Operation Status,
073-14396-00036

Dear Mr. Clark:

The application from Holiday Shell, received on May 15, 2001 has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.1, it has been determined that the following equipment, to be located at 11750 State Road 10, Demotte, Indiana, is classified as registered:

- (a) Soil vapor extraction (SVE) and air sparging system, which includes five (5) vapor extraction wells, and ten (10) sparging wells. The soil vapor extraction system is capable of extracting air at a total rate of 200 cubic feet per minute (cfm). The air sparging system will be used to pump compressed air into the ground (saturated zone) at a total rate of 100 cubic feet per minute (cfm).

The following conditions shall be applicable:

1. Volatile Organic Compounds (VOCs) [326 IAC 8-1-6]

The VOC potential emissions from the Soil vapor extraction (SVE) and air sparging system are less than 25 tons per year. Therefore, the Best Available Control Technology (BACT) requirement in 326 IAC 8-1-6 (New Facilities: General Reduction Requirements) does not apply. Any change or modification which may increase Soil vapor extraction (SVE) and air sparging system VOC potential emissions to 25 tons per year or more shall obtain OAQ approval before such change may occur.

2. Hazardous Air Pollutants (HAPs) [326 IAC 2-4.1-1]

The single HAP and combined HAPs potential emissions from the Soil vapor extraction (SVE) and air sparging system are less than 10 tons per year and 25 tons per year respectively. Therefore, 326 IAC 2-4.1-1 (New Source Toxics Control) does not apply. Any change or modification which may increase each single HAP or combined HAPs emissions to 10 tons per year or more or 25 tons per year or more from the Soil vapor extraction (SVE) and air sparging system shall obtain OAQ approval before such change may occur.

This registration is the first air approval issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.1-2(f)(3). The annual notice shall be submitted to:

Compliance Data Section
Office of Air Quality
100 North Senate Avenue

P.O. Box 6015
Indianapolis, IN 46206-6015

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

APD

cc: File -Jasper County
Jasper County Health Department
Air Compliance -Eric Courtright
Permit Tracking - Janet Mobley
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

Registration Annual Notification

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3).

Company Name:	Holiday Shell
Address:	11750 S. R. 10
City:	Demotte, Indiana 46310
Authorized individual:	Stanley Clark
Phone #:	(765) 492-3345
Registration #:	073-14396-00036

I hereby certify that **Holiday Shell** is still in operation and is in compliance with the requirements of Registration **073-14396-00036**.

Name (typed):
Title:
Signature:
Date:

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Registration

Source Background and Description

Source Name: Holiday Shell
Source Location: 11750 State Road 10, Demotte, Indiana
County: Jasper
SIC Code: 2999
Registration No.: 073-14396-00036
Permit Reviewer: Aida De Guzman

The Office of Air Quality (OAQ) has reviewed an application from Holiday Shell relating to the construction and operation of the following:

- (a) Soil vapor extraction (SVE) and air sparging system, which includes five (5) vapor extraction wells, and ten (10) sparging wells. The soil vapor extraction system is capable of extracting air at a total rate of 200 cubic feet per minute (cfm). The air sparging system will be used to pump compressed air into the ground (saturated zone) at a total rate of 100 cubic feet per minute (cfm).

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
AS/SVE-01	air sparging/soil vapor extraction	3	0.25	1,500	ambient

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on May 15, 2001, with additional information received via e-mail on May 25, 2001. On June 11, 2001, the source has changed the maximum capacity of the five vapor extraction wells due to an error in the original application. The original application rated each vapor extraction well using the total system's maximum capacity.

Emission Calculations

- (a) **Air Sparging and Soil Vapor Extraction System:**
 Soil vapor extraction system removes volatile organic compounds (VOCs) and some semi-volatile organic compounds (SVOCs) from soil beneath the ground surface in the unsaturated zone (part of the subsurface located above the water table). By applying a vacuum through a system of underground wells, contaminants are pulled to the surface as vapor or gas. Air sparging system which includes air injection wells are installed to remove contaminants in the saturated zone of the subsurface (water-soaked soil that lies below the water table).

The following emissions were calculated based on air samples:

Table 1

Sample ID	VOC Concentration (Fg/liter)	Flow Velocity (feet/minute)	Flow Rate (cfm)	Mass Emission Rate (lb/hr)	Annual VOC Emission Rate (tons/year/well)
Air Sample No. 1	986	1,500	40	0.48	0.64
Air Sample No. 2	2,110	1,500	40	1.03	1.38
Air Sample No. 3	3,782	1,500	40	1.85	2.48
TOTAL Emissions from the 5 extraction wells					12.40

Table 2

Sample ID	Ethylbenzene Concentration (Fg/liter)	Flow Velocity (feet/minute)	Flow Rate (cfm)	Mass Emission Rate (lb/hr)	Annual Ethylbenzene Emission Rate (tons/year/well)
Air Sample No. 1	76	1,500	40	0.04	0.05
Air Sample No. 2	210	1,500	40	0.10	0.14
Air Sample No. 3	390	1,500	40	0.19	0.26
TOTAL Emissions from the 5 extraction wells					1.3

Methodology:

VOC/HAP Emissions = concentration, Fg/liter * lb/453,592,400 Fg * ton/2000 lb * 28.32 liters/cu ft * flow rate, cfm * 60 min/hr * 8760 hrs/yr

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	0.0
PM-10	0.0
SO ₂	0.0
VOC	12.4
CO	0.0
NO _x	0.0

HAP's	Potential To Emit (tons/year)
ethylbenzene	1.3
TOTAL	1.3

Justification for the Level of Approval

- (a) This is a proposed source, which meets the applicability of 326 IAC 2-5.1-2, because the potential to emit (as defined in 326 IAC 2-7-1(29)) of volatile organic compounds (VOC) are less than 25 tons per year but equal to or greater than 10 tons per year. Therefore, the source will be issued a Registration.

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO ₂	VOC	CO	NO _x	HAPs
Air sparging/soil vapor extraction	0.0	0.0	0.0	12.4	0.0	0.0	1.3
Total Emissions	0.0	0.0	0.0	12.4	0.0	0.0	1.3

County Attainment Status

The source is located in Jasper County.

Pollutant	Status
PM-10	Attainment
SO ₂	Attainment
NO ₂	Attainment
Ozone	Attainment
CO	Attainment
Lead	not determined

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Jasper County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

- (b) Jasper County has been classified as attainment or unclassifiable for all the other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

New Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	0.0
PM10	0.0
SO ₂	0.0
VOC	12.4
CO	0.0
NO _x	0.0
Single HAP	1.3
Combination HAPs	1.3

- (a) This new source is **not** a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new source is **not** subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This is the first air approval issued to this source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability

- (a) 326 IAC 2-6 (Emission Reporting)
This source is **not** subject to 326 IAC 2-6, because its potential to emit VOC is less than 100 tons per year.

- (b) 326 IAC 8 (Volatile Organic Sources)
There are no provisions under Article 8 that will apply to this soil vapor extraction source, because it does not fit any of the source categories in the rule.
- (c) 326 IAC 8-1-6 (General Reduction Requirements)
This rule applies to new facility as of January 1, 1980 which have potential VOC emission of 25 tons per year. The soil vapor extraction source is **not** subject to this rule because its VOC potential emission is less than 25 tons per year.
- (d) 326 IAC 2-4.1-1 (New Source Toxics Control)
This rule applies to sources who construct or reconstructs a major source of hazardous air pollutants after July 27, 1997. This rule is **not** applicable to this source, because it is not major for hazardous air pollutants (HAPs).

Conclusion

The construction and operation of this soil vapor extraction source shall be subject to the conditions of the attached **Registration 073-14396-00036**.